

FEDERAL REPUBLIC OF SOMALIA

GRADE 12 EXAMS, 2016

BIOLOGY



OFFICE OF EXAMINATIONS AND CERTIFICATION



Name.....

School

Roll Number.....

Somali Federal Ministry of Education, Culture & Higher Education

Form Four National Standardized Examinations.

MAY / JUNE 2016

BIOLOGY EXAMINATION

TIME 2 HOURS

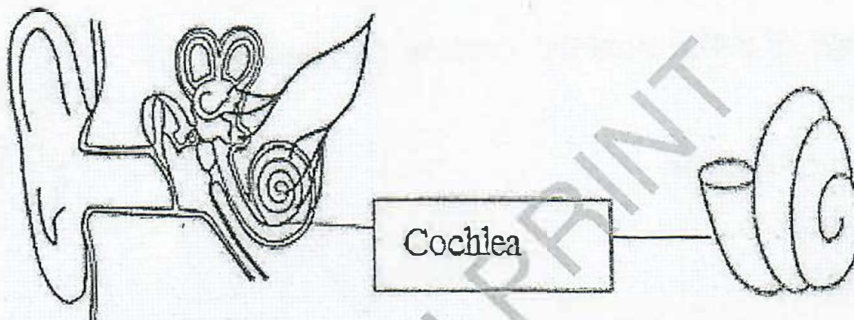
INSTRUCTIONS:

- This paper consists of 16 printed pages
- There are 2 sections:
 - ⇒ Section 1: 20 Multiple Choice Questions (40 Marks)
 - ⇒ Section 2 : 10 Structured Questions (60 Marks)
- TOTAL (100 Marks)**
- Answer all questions in the spaces provide
- No extra paper is allowed.

PART 1: 20 MULTIPLE CHOICE QUESTIONS. Circle the correct answer. (40 marks)

1. The human forebrain consists of :
- a. Cerebrum, cerebellum and thalamus
 - b. Hypothalamus, Cerebrum, thalamus and pituitary gland
 - c. Pituitary gland, hypothalamus and thalamus
 - d. Thalamus cerebellum and and thyroid gland.

2.

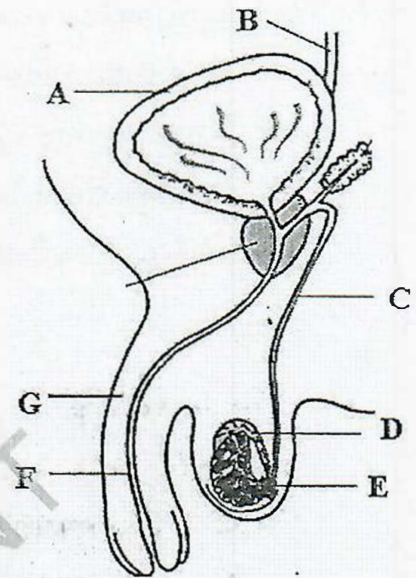


The above figure shows a section of the human ear called Cochlea. What is the function of cochlea?

- a. Hearing
 - b. Protection
 - c. Vision
 - d. Light sensation
3. Which of the following disease is caused by the protozoa parasite?
- a. T.B
 - b. Cholera
 - c. Malaria
 - d. HIV/AIDS

4. The figure shows a section through a male urinogenital system. The function of the part labeled (E) is

- Ejaculation
- Sperm production
- Stores sperms
- Sperm deposition



5. The transfer of pollen from the anther to the stigma is known as:

- Spore formation
- Pollination
- Budding
- Rhizopus

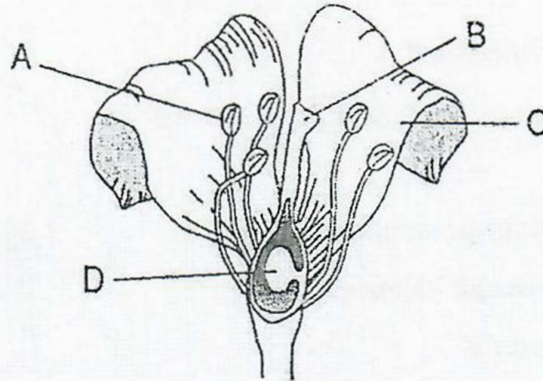
6. The DNA is an important molecule because it:

- It is responsible for transport of substances in body
- It forms a protective layer against harmful substances
- It stores genetic information in a coded form
- It gives individuals behavioral development

7. The hormone that controls the contraction of uterus wall during parturition is known as

- Cytokinns
- Adrenaline
- Adenosine
- Oxytocin

8.



The flower has both stamen and carpels. What term is used to describe such a flower?

- a. Actinormorphic
- b. Zygomorphic
- c. Hermaphrodite
- d. Solitary flower

9. When the genes are identical as in TT and tt the condition is known as

- a. Heterozygous
- b. Dominancy
- c. Homozygous
- d. Recessive

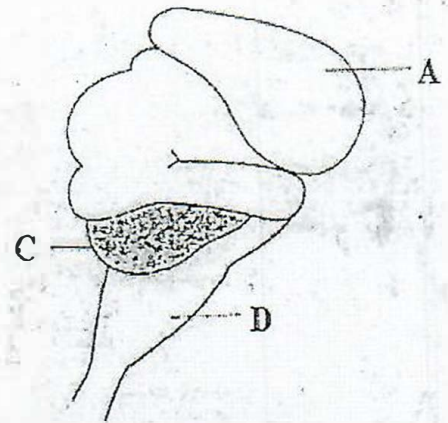
10. The following are factors in ecosystem **except**

- a. Humidity
- b. Temperature
- c. Salinity
- d. Water

11. The figure below shows a section of the human brain.

State the function of the part labeled A.

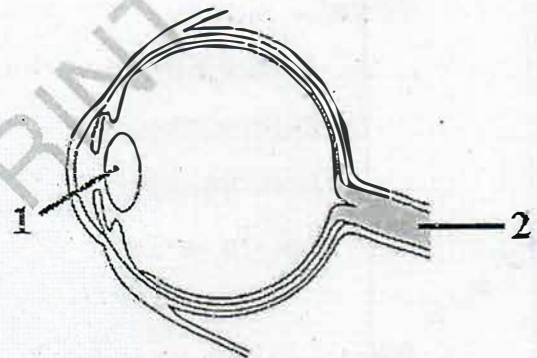
- a. It relays Impulses between the spinal cord and the forebrain
- b. It controls leaving memory of an individual.
- c. It maintains body posture and balance
- d. It controls breathing systems



12. The figure shows a section of the human eye.

Name the part labeled 1 and 2.

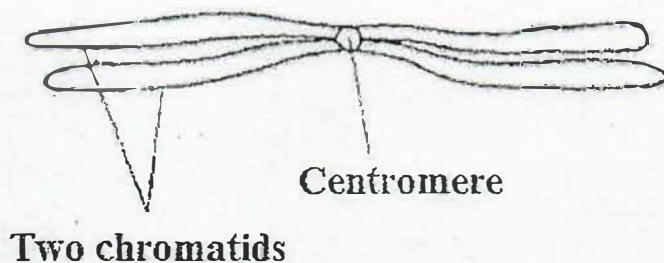
- a. Cornea and lens.
- b. Optic nerve and iris.
- c. Retina and cornea.
- d. Optic nerve and lens.



13. Green plants make food by photosynthesis, this process takes place in the

- a. Roots
- b. Leaves
- c. Stem
- d. Stomata

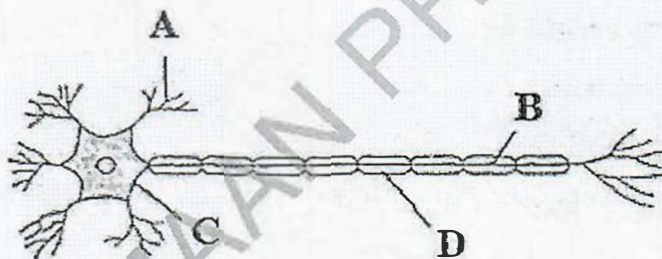
14.



The figure above is a chromosome. Chromosomes occur in pairs. The member of each pair is called

- a. Chromotids
- b. Homologous
- c. Somatic cells
- d. Genes

15.



The figure above shows motor neuron. Name the parts labeled A and B respectively

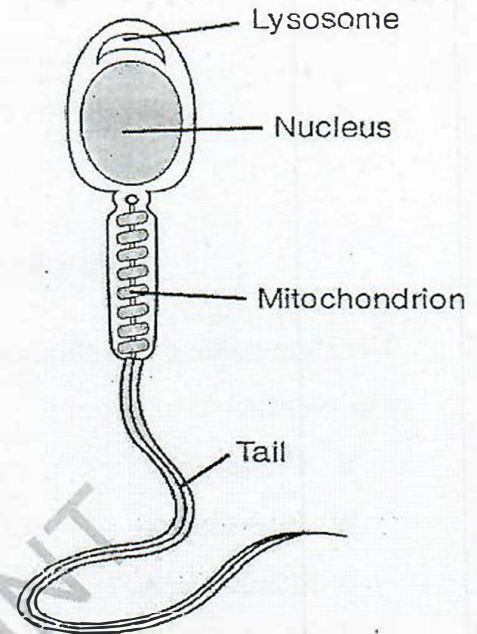
- a. Cell body and axon
- b. Dendrites and axon
- c. Cell body and dendrites
- d. Nucleus and axon

16. One of the following is correct according to the food chain

- a. Grass → goat → human
- b. Grasshopper → mosquito → human
- c. Napier grass → mouse → algae
- d. Snake → hawk → Nile

17. The figure shows male sex gametes. The part of the gamete that is responsible for production of energy for propulsion of the sperm to reach the egg is

- Tail
- Mitochondria
- Nucleus
- Lysosome



18. Short sightedness is a condition in which light rays from a distant object are brought to focus in front of retina. Thus condition can be corrected by wearing

- Diverging of lens
- Convex lens
- Cylindrical lens
- Defective lens

19. Occasional the zygote fails to move down the oviduct to the uterus but instead gets implanted into the walls of the oviduct where it develops. This condition is called

- Premature birth
- Miscarriage
- Ectopic pregnancy
- Abortion

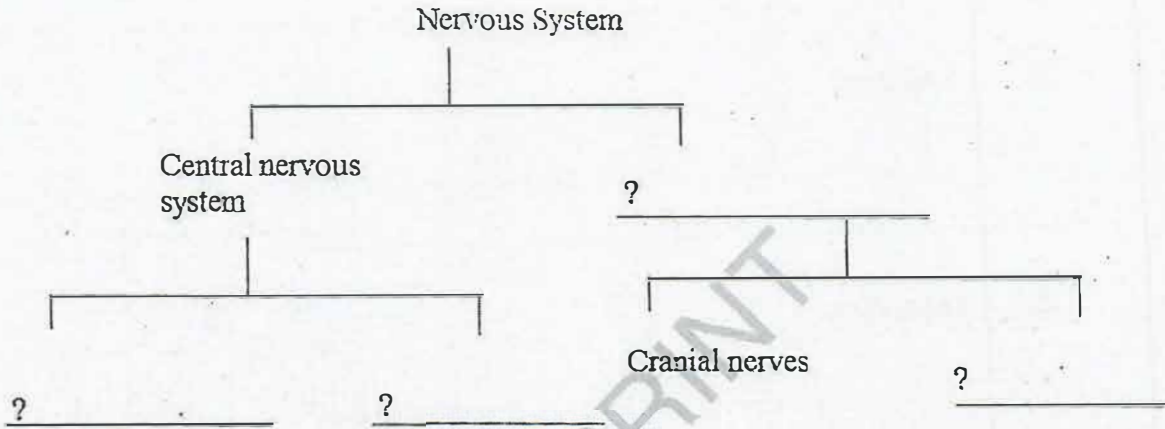
20. All the biotic and abiotic factors in a pond form

- Biosphere
- Community
- Ecosystem
- Estuary

PART TWO: STRUCTURED QUESTIONS (60 Marks)

QUESTION ONE (6 Marks)

a. complete the following diagram



b.

1. What do you understand by the word nerve drug?

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2. Some drugs are abused. Give an example of an abused drug in Somalia.

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3. Prolonged abused of drugs is called

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QUESTION TWO (6 Marks)

a. Define the following terms.

i. Genes

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ii. Variation.

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iii. Phenotype.

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iv. Genotype.

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b. Complete the sentences.

i. Hemophilia is caused by a recessive gene on the Chromosome.

ii. The inability to distinguish and Colors is called color blindness

c. Polyploidy is rare in but common in

QUESTION THREE (6 Marks)

The table below shows placental exchanges. Complete the table.

What is allowed to pass through the placenta	What is not allowed
a. From the mother to foetus	
i.	i.
ii.	ii.
iii.	iii.
iv.	
v.	
vi.	
vii.	
b. From the foetus to mother	
i.	
ii.	

QUESTION FOUR (6 Marks)

Complete the table below

Disease	Causative agent	Cure/ prevent
Trichomoniasis		
	Candida albican	
Cholera		
		Using mosquito net
	Entamoeba histolytic	
AIDS		

QUESTION FIVE (6 Marks)

a. Explain the meaning of the following terms in human reproduction

i. Implantation

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ii. Ovulation

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iii. Parturation.

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b. State the functions of each of the following structures

i. Placenta.

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ii. Fallopian tube.

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iii. Amniotic fluid.

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iv. Umbilical cord

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QUESTION SIX (6 Marks)

a. Define the following terms used in ecology

i. Biosphere.

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ii. Habitat.

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iii. Population.

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iv. Synecology.

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v. Carrying capacity.

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b. What are the two main components of an ecosystem?

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QUESTION SEVEN (6 Marks)

According to the human ear, state the components of each part

a. Outer ear.

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b. Middle ear.

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c. Inner ear.

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QUESTION EIGHT (6 Marks)

a. Pollutant is a substance mainly waste that contaminates air, water and soil. Determine the causes of air pollution.

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b. Populations are not static but change in size, structure and organization. State some of the characteristics of populations?

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QUESTION NINE (6 Marks)

a. Compare the following terms

i. Down syndrome.

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ii. Turner syndrome.

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iii. Klinefelter syndrome.

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b.

i. What is sickle cell anaemia?

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ii. What is haemophilia?

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QUESTION TEN (6 Marks)

a. In land vertebrates there is a lachrymal gland that continuously secretes a watery saline and antiseptic fluid.

i. What is the name of that fluid?

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ii. What is the function of the fluid?

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b. The adrenal gland secretes adrenaline hormone which prepare the body for emergency-fight or flight.

i. What are the changes that take place in organs/ systems in the body?

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ii. The over secretion of adrenaline can be brought about by the growth of tumor in the medulla of the adrenal gland. The person shows some symptoms which include:

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END